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ABSTRACT

This paper explores the challenges instructional technology presents to faculty and administration. For example: students will not accept lectures that fail to draw upon Internet resources; integrating technology sparks the faculty debate that the use of technology will "dehumanize teaching and learning"; community college professors criticize that technology will "reduce their role in teaching"; and faculty feel that technology is a tool which will decrease their number and salary. The paper describes the development of A Technology Plan for County College of Morris (CCM), which included the formation of an Information Technology Committee. A faculty technology survey (appended in this paper) was used to determine the training needed to develop faculty skills in the use of technology to enhance teaching, learning, scholarship, and instructional delivery. Supporting faculty development in instructional technology required CCM to find a new faculty development model, which included elements such as a Teaching/Learning Technology Center, an Instructional Design Team, and the selection and implementation of WebCT as an online course management tool. The report describes a ten-step training program, How to Put Your Course Online (appended in this report), as part of the faculty development initiative. It describes lessons learned in the process of developing a faculty development model, which included utilizing a hybrid of many staff development models. (Contains 12 references.) (VWC)

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1998-1999 Fellows
Princeton University/New Jersey Community Colleges Partnership
Mid-Career Fellowship Program

Instructional Technology and Faculty Development

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May 1999

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Instructional Technology and Faculty Development

With the arrival of the new millennium, the community college has many challenges and opportunities to face. Community colleges are "rushing toward a future where access to information and the power to manipulate it will give learners options they have never known, instructors capabilities the likes of which they have never dreamed, and leaders tools for decision making that exceed any expectations." (Milliron)

The use of information technology across community college campuses has risen dramatically over the last ten years. K.C. Green's *1996 Annual Campus Computing Survey* stated that infusing information technology into instruction has become one of the top two technology issues facing all of higher education. Instructional technology holds the potential for dramatic change and remains a critical challenge at the community college.

Instructional Technology Trends.

Technology provides numerous choices in today's community college classroom. Instructors can offer a wide array of learning possibilities, which include the following:

• Telecourses	• Tele-Web courses
• ITV	• Online classes
• Presentational technologies	• Internet
• Web searches	• Computer-based multimedia training
• E-mail and listserv collaboration	• Threaded discussions
• Bulletin-board services	• Online chat rooms and net meetings
• Simulators	• Online tutorials

Challenges of Instructional Technology.

Although instructional technology has the potential for dramatic change, integrating these new teaching/learning techniques still present a serious challenge to the

faculty and the administration. In the average classroom, instructors traditionally lecture to their students about 80 percent of the time and the students are listening to what is being said about 50 percent of the time. (Stetson, 1993) Marilyn Gilroy comments that many faculty are struggling to effectively deliver the traditional lecture and find it almost impossible to maintain students' attention for more than 20 minutes. (Gilroy, 1998) "Students who grow up in a technological age will not accept lectures that fail to draw upon the information resources on the Internet and elsewhere." (Alvarez, 1996)

A second challenge facing the community college in integrating technology is the faculty debate that the use of technology will "dehumanize teaching and learning." (Burke, 1994) According to Burke, technology can personalize the student's education because it can be tailored to the individual needs and learning style of each person. (1994) When instructors add technology-supported learning options, the ability to accommodate style variations is expanded. (Smith, 1997) If technology is used correctly by the instructor, the opportunity for human interaction should increase with the result being just the reverse of dehumanization.

Community college professors often criticize that technology will "reduce their role in teaching." (Burke, 1994) On the contrary, Burke feels that faculty will have more time to mentor students, to deal with individual differences, and to reach higher levels of knowledge and wisdom. (1994)

Finally, faculty feel that technology is a tool which will decrease their number and salary. Community college faculty argue that instructional technology diminishes the importance of the traditional lecture. In an opposing viewpoint, Burke states that faculty will use their time on higher order contributions such as advising, counseling, mentoring

and collaborating and that faculty compensation will no longer be measured by a time clock (1994)

Anticipating the Future.

Integrating this rapidly changing, innovative instructional technology requires long-range planning with a vision toward the future. Since one of the missions of the community college is to prepare its students with the skills, aptitudes, and knowledge needed to interface with the coming technology, educators must anticipate the workplace and society of the future. According to Daggett, the community college instructor must expose students to technology and create a curriculum which prepares the students for their technological future. (1998) However, "the problem schools face today in preparing these students for their technological future lies in limited and/or inadequate staff development." (Poole, 1998)

If staff development is really the key to integration, then why are computers collecting dust when many teachers have already been sent to technology workshops? One-shot workshops, added expense of training, lack of continued support, isolated knowledge, unawareness of school needs, lack of knowledge and support from leadership all contribute to the ineffectiveness of technology staff development." (Poole, 1998)

County College of Morris and Faculty Development

A *Technology Plan for County College of Morris* (CCM), developed in 1997, included the creation of an Information Technology Committee. The committee was charged with the following action items: technology bond, student access, faculty development, distance learning, facilities retrofitting, technical support, and a help line. As the Director of the Center for Teaching Excellence, I was responsible for the Faculty Development Action Team of the Information Technology Committee.

Once CCM had its technology plan in place and the hardware and software was ordered, the next big question came: "How do we create an environment in which our faculty and staff use the technology effectively in the teaching and learning process?" (Zeiss, 1998) Initially, a faculty technology skill survey was distributed to determine the technology skill levels of our full-time and adjunct faculty. (*See Appendix A*) The results of this survey were used to determine the training needed to develop faculty skill in the use of technology to enhance teaching, learning, scholarship, and instructional delivery. Specific training needs were addressed through the In-House Training Program offered in the spring and fall semesters. Technology courses were offered in the Microsoft Office software suite, videoconferencing software, web page design, electronic mail, Java, Microsoft Windows NT, 95 and 98, basic HTML, Internet searches, Microsoft FrontPage and Adobe Photoshop and PageMaker software.

Providing the vision and leadership in the area of staff development is the sole responsibility of the Director of the Center for Teaching Excellence (CTE) at County College of Morris. When I assumed the Director's position in January 1997, the college administration asked me to increase the technology offerings to our faculty and staff. "The whole issue of staff development is becoming quite a challenge. Training people is the easy part; getting them to buy into new technology is quite another." (Zeiss, 1998) As Schroeder states in his article, "The \$2,500 Paperweight," so many in higher education have failed to recognize that hardware, without the accompanying knowledge of how to use it, is a terrible waste of money and potential. "To the extent we fail to provide training, we will most certainly fail to reach the potential of our precious investment in technology." (Schroeder, 1997) At County College of Morris, the

administration made a commitment to put a computer with an Internet connection on every faculty member's desk and to support the faculty instructional technology training needs. If the faculty did not buy into this technology training, these new multimedia computers might become pretty expensive paperweights!

CCM's Faculty Development Model

Supporting faculty development in instructional technology and providing opportunities to discover how the use of technology could enhance the teaching/learning environment required CCM to find a new faculty development model. Existing methods used to train faculty included the CTE In-House Training Program and Professional Day Workshops at the beginning and end of each semester. With the approval of the Technology Plan and the implementation of the technology purchases, several new issues developed that required immediate attention and training. These included electronic mail systems for faculty and students, an upgrade to the college records and registration system, course management tools for online courses, upgrading personal computers, installing new software versions, redesigning lecture halls into electronic multimedia presentation rooms, and installing a new ATM backbone for the college infrastructure. What training model should CCM adopt in order to get the cautious professors to participate and take advantage of the instructional technology training?

The Dean of Professional Programs and Distance Education led the way with her vision for a Teaching/Learning Technology Center, an Instructional Design Team, and the selection and implementation of WebCT as our online course management tool. The Director of the CTE was involved in every aspect of this faculty development model. First, the newly formed **Teaching/Learning Technology Center** was created and housed

in our Learning Resource Center. It was outfitted with seven high-end multimedia personal computers, color inkjet printers, scanners, assorted software, and digital cameras. Second, an **Instructional Design Team** was established with a team leader who was a faculty member from the English Department and four representatives from each of our academic divisions. The Instructional Design Team members motivated each other and made themselves accessible to our faculty in the Teaching/Learning Technology Center. The Team members learned from each other and became our resident technology experts and pioneers. Finally, with the anticipated online course offerings in the fall 1998 semester, serious efforts were made in spring 1998 to select a course management tool. Team members, along with the CTE Director and the Dean of Distance Education, reviewed and tested several software products before selecting **WebCT** as CCM's online course management tool.

Center for Teaching Excellence Initiatives. In the spring of 1997, CTE sponsored a professional day guest lecturer, Dr. Stephen Ehrmann of the American Association of Higher Education, and this encouraged the Instructional Design Team to participate in a Teaching/Learning Technology Round Table Conference, which was sponsored by AAHE. The result of this conference was the framework for the Information Technology Committee's Action Teams that were mentioned earlier in this report. Several PBS live satellite teleconferences were offered at CCM as faculty development sessions—Putting Your Course Online, Developing for the World Wide Web, and Internet Copyright Issues. The Center for Teaching Excellence piloted a PBS Internet Literacy online course in the spring 1998. Over 27 individuals from the campus community—including faculty, administrators, and even Board of Trustee members—subscribed to this pilot online

course. All participants had an opportunity to experience first-hand what is really involved in taking an online course at a community college.

In the spring of 1999, a special professional development opportunity was offered to all full-time and adjunct faculty at the college. *How To Put Your Course Online—A Ten-Step Training Program* has been extremely well received by the faculty. (See *Appendix B*) Each of the ten one-hour sessions is held at the Teaching/Learning Technology Center with several of the Instructional Design Team members and the CTE Director providing the training in the following content areas:

1. What's different about distance teaching?
2. Organizing your course content.
3. WebCT Basics
4. Getting your course content ready for WebCT
5. Posting your course on WebCT.
6. Using Forums/Bulletin Boards in WebCT.
7. Creating Quizzes in WebCT.
8. Using Other WebCT Tools.
9. Adding audio to WebCT.
10. Adding video to WebCT.

After completing the ten-step training program, it is hoped that the faculty participants will be proficient in using the technology to deliver or supplement their course material. To facilitate the next phase of their project development, CTE is proposing a Faculty Summer Institute for the summer of 1999. Entry into this institute will be on a competitive basis and each person enrolled will be awarded a stipend. The goal of the institute is to provide the faculty with the time, hardware, software, and expertise needed to complete a scholarly technology project of their choosing.

Lessons Learned.

Did County College of Morris use an existing faculty development model to enhance the teaching/learning environment? After some informal campus interviews, I

am of the opinion that a hybrid of many staff development models was used at CCM Institutions such as Maricopa, Houston, Dallas, Kansas City, Johnson Community College in Kansas City, and DeAnza provided the models for CCM's hybrid faculty development initiatives. Many of these strategies were discovered at several League for Innovation conferences.

The County College of Morris faculty development model applies many of the staff development principles that have been successfully implemented in other models. The T-4 Plan Model (Poole, 1998) is "built on the premise that technology training can support a school's advancement toward technology integration using a team effort."

Other T-4 Plan Model goals include:

- Providing release time for staff to work with technology to become more efficient in using it personally and professionally (*CCM's design team receives release time.*)
- Demonstrating how technology can be integrated into the learning process
- Creating an awareness of technological innovations and their possibilities
- Establishing a collaborative teaching atmosphere by using the teacher-to-teacher training model

CCM's Instructional Design Team clearly supports this principle through the sharing of information from professor to professor.

In the Cross and Angelo Classroom Research Model (Stetson, 1993) recommendations for a successful program based on five years' experience in providing training in the use of Classroom Assessment Techniques include the following:

1. Plan carefully and plan for the long term.
2. Offer systemic and substantive training over a period of at least one semester. One-day workshops will not result in changed behavior.
3. In designing the training, use what is already known about good teaching and learning. Proven principles include frequent trainer contact with the faculty; prompt feedback from the trainer to faculty; use of cooperative and active learning strategies; encouragement of faculty; use of a variety of teaching methods; clear expectations about what the faculty are to learn; and the use of an enthusiastic and expert trainer.

4. Provide ongoing support for individuals and groups, for example, one-on-one consultations with the staff development officer, monthly meetings of participants, and "study buddies."
5. Use faculty participants as recruiters for the program. They can make presentations to groups during staff development days or recruit one on one.
6. Offer incentives, both tangibles and intangibles, to those who participate fully, including stipends, food, pleasant working environment, opportunities for presentations, encouragement for publications, and other support.
7. Last, but not least, make faculty participation in the program voluntary and nonthreatening (Stetson, 1993)

The selected principles in use at CCM include: voluntary and nonthreatening faculty participation, ongoing support, tangible and intangible incentives, systemic and substantive training, and excellent teaching and learning principles demonstrated by enthusiastic instructors.

At DeAnza College in California, they decided to offer small incentive grants to instructors to develop Web courses. DeAnza decided to spend \$50,000 on the faculty and allowed them to design and develop their own courses rather than using a template or course authoring system. Training was provided in adapting existing courses for an online presentation format. Topics included the following:

- Understanding distance learning methodology
- Organizing content into a logical flow
- Building a flow chart of the course
- Creating resource links
- Developing a storyboard
- Managing resources
- Getting all the parts together
- Site testing
- Editing and quality assurance online (Acebo, 1998)

When compared to CCM's **How To Put Your Course Online—A Ten-Step Training Program**, many similarities can be seen. However, the research on DeAnza College was not done beforehand; and, therefore, it was not used in the development of the CCM

hybrid model. Upon comparison afterwards, the DeAnza training model parallels the CCM faculty development model in many areas.

Summary.

Although there is no conclusive, widespread evidence in the research literature that the use of instructional technology improves student learning, community colleges are at a risk of falling behind in technology and in preparing today's students with the skills and knowledge needed to cross into the millennium. Further research must explore connections between the use of technology for instruction and effective learning. (Taber, 1998)

In conclusion, providing the proper type of staff development training in instructional technology will have a positive effect at the community college. In reality, there is no "one-size fits all" training model for all institutions. Each institution must select what works best for its faculty and this can be determined by surveying them. Using interested faculty members as recruiters, mentors and trainers provides the foundation for a comfortable professional development environment. Faculty support is a critical element to the success of any staff development program—without it, your program cannot succeed.

Appendices A and B

Carole A. Holden

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County College of Morris Faculty Technology Skill Survey

This survey will help determine the training needed to develop faculty skill in the use of technology. This is important to assure that faculty can make use of technology to enhance teaching, learning, scholarship, and instructional delivery.

1. Do you use a personal computer in your office? Yes ☐ No ☐

If **yes**, how frequently do you use it?

☐ Daily ☐ Weekly ☐ Monthly ☐ Less often

If **yes**, tell us about your computer:

Type of Workstation

☐ DOS

☐ Windows 3.1

☐ Windows 95

☐ Macintosh

☐ Other (please specify) _____

Do you have a CD-ROM drive? ☐ Yes ☐ No

Is your computer connected to CCMNet? ☐ Yes ☐ No

Does your computer have a sound card & speakers? ☐ Yes ☐ No

2. Do you use a personal computer at home? ☐ Yes ☐ No

If **yes**, what type of workstation is your computer?

☐ DOS ☐ Windows 3.1 ☐ Windows 95 ☐ Macintosh

If **yes**, do you connect to campus from home? ☐ Yes ☐ No

3. Please rate your skill level for the following uses of technology:

Skill	Don't Use	Beginner	Intermediate	Expert
• Word processing				
• Spreadsheet software				
• Authoring software				
• Electronic mail				
• Newsgroups				
• World Wide Web				
• Remote access to library databases				
• Listservs				
• Online searches				
• Presentation software				
• Interactive multimedia software				
• Collaborative software				
• Network distribution of class materials				
• Computer conferencing software				

Continued...

APPENDIX A

4. Please tell us what discipline- or course-specific software you use.

5. What do you need in the following areas to help you do your job better?

• **Software**

• **Hardware**

• **Training**

• **Other**

6. Please tell us of any issues or ideas you may have regarding the use of technology at CCM.

7. **Adjunct Faculty Only:** When would be the best time for CCM to provide training?

Would you participate in the training? ☐ Yes ☐ No

8. Would you be interested in participating in the **Center for Teaching Excellence Technology Partners Project**? This project would match expert faculty technology users with beginner faculty technology users. ☐ Yes ☐ No

Name: _____

Department: _____

Mail Station: _____

E-Mail Address: _____

Phone No.: _____

Thank you for completing the survey!
Return by **December 23, 1997** to Carole A. Holden, Director
Center for Teaching Excellence
HH114

APPENDIX A

Faculty Technology Skill Survey Results—January 1998

95 Surveys returned by full-time and adjunct faculty members

1. Do you use a personal computer in your office? 74 Yes 8 No
 If yes, how frequently do you use it?
 62 Daily 13 Weekly 3 Monthly 4 Less often
 If yes, tell us about your computer:
 Type of workstation:
 3 DOS
 13 Windows 3.1
 48 Windows 95
 6 Macintosh
 5 Other
 Do you have a CD-ROM drive? 42 Yes 34 No
 Is your computer connected to CCMNet? 43 Yes 30 No
 Does your computer have a sound card & speakers? 32 Yes 42 No
2. Do you use a personal computer at home? 82 Yes 12 No
 If yes, what type of workstation is your computer?
 8 DOS
 18 Windows 3.1
 48 Windows 95
 11 Macintosh
 If yes, do you connect to campus from home? 19 Yes 61 No

Skill	Don't Use	Beginner	Intermediate	Expert
Word processing	8	13	52	22
Spreadsheet software	38	20	26	11
Authoring software	73	10	9	2
Electronic mail	15	26	4	13
Newsgroups	69	16	7	3
World Wide Web	19	33	32	11
Remote access to library databases	62	19	11	3
Listservs	66	20	9	0
Online searches	40	22	22	11
Presentation software	49	23	15	8
Interactive multimedia software	61	20	6	8
Collaborative software	79	10	5	1
Network distribution of class materials	79	12	3	1
Computer conferencing software	85	7	3	0

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How to Put Your Course Online

Learn to use new technology to deliver or supplement your course material. The process has been divided into ten easy steps. Register for one or more of the ten modules. Complete all ten steps and earn a certificate of recognition in *Teaching/Learning Technology*.

Step 1: What's different about distance teaching?

- Transform traditional classroom content to an online environment
- Identify distance education students
- A Wednesday, February 10, 2:30-3:30 p.m. LRC 110
- B Friday, February 12, 10-11 a.m. LRC 110

Step 2: Organizing your course content.

- Outlining or storyboarding
- Visualizing how your class will be used
- Meeting student needs
- A Wednesday, February 17, 2:30-3:30 p.m. LRC 110
- B Friday, February 19, 10-11 a.m. LRC 110

Step 3: WebCT Basics

- Learn how this course management tool works
<http://www.webct.com/webct/>
- Explore the calendar tool
- A Wednesday, February 24, 2:30-3:30 p.m. LRC 110
- B Friday, February 26, 10-11 a.m. LRC 110

Step 4: Getting your course content ready for WebCT

Note: Participants should bring 4-5 paragraphs of typed course material saved on a disk.

- Learn to use Netscape Composer in 8 minutes or less
- Find free graphics on the Internet
- Learn how to use tables to organize your content
- A Wednesday, March 3, 2:30-3:30 p.m. LRC 110
- B Friday, March 5, 10-11 a.m. LRC 110

Step 5: Posting your course on WebCT

Note: Participants should bring their disk from Step 4.

- Learn to use File Manager on WebCT
- A Wednesday, March 10, 2:30-3:30 p.m. LRC 110
- B Friday, March 12, 10-11 a.m. LRC 110

Step 6: Using Forums/Bulletin Boards in WebCT

- Discover this major mechanism for student/student and student/faculty interaction
- A Wednesday, March 24, 2:30-3:30 p.m. LRC 110
- B Friday, March 26, 10-11 a.m. LRC 110

Step 7: Creating Quizzes in WebCT

Note: Participants should bring some sample quiz material.

- Learn how to create quizzes in WebCT
- A Wednesday, April 7, 2:30-3:30 p.m. LRC 110
- B Friday, April 9, 10-11 a.m. LRC 110

Step 8: Using Other WebCT Tools

- Private Mail
- Student Tracking
- Student Grade Records
- Student Home Pages
- Glossary
- A Wednesday, April 14, 2:30-3:30 p.m. LRC 110
- B Friday, April 16, 10-11 a.m. LRC 110

Step 9: Adding Audio to WebCT

- Use Real Audio to create and upload sound
- A Wednesday, April 21, 2:30-3:30 p.m. LRC 110
- B Friday, April 23, 10-11 a.m. LRC 110

Step 10: Adding Video to WebCT

- Discover how to add video to your online course
- A Wednesday, April 28, 2:30-3:30 p.m. LRC 110
- B Friday, April 30, 10-11 a.m. LRC 110

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